

REMARKS

Claims 1-10 are pending in the application. Claims 1-10 stand rejected. Claims have been amended . Accordingly, no new matter is introduced by these amendments.

Reply to the Rejection of Claims 1-10 under 35 U.S.C. § 102(b)

The Examiner has rejected Claims 1-10 as being anticipated by International Publication No. WO 00/06684 to Wäschenbach *et al.* ("Wäschenbach"). Specifically, the Examiner states –

Applicants claim a solid polymer film comprising a polymer comprising a) 2 to 60 mole percent of protonated amine monomer units, wherein said protonation is formed by a fixed acid; and b) 40 to 98 percent of hydrophobic monomer units.

Waschenbach discloses a composition for use in a dishwasher which is provided in the form of a tablet. The composition is characterized by a base composition which essentially carries out its function during the rinse cycle of the dishwasher. The particle also has a coating which, for the most part, completely surrounds the core(s). Said coating comprises at least one compound whose solubility increases with a declining concentration of a specific ion in the surrounding medium. The at least one particle is arranged in or on the tablet in such a way that the surface of the particle(s) is, at most, partially in direct contact with the surface of the base composition surrounding this/these particles. In order to prevent the coating from substantially dissolving or to prevent the coating from substantially detaching from the core(s), the concentration of the specific ion in the local surrounding of the particle(s) is sufficiently high until the tablet has, for the most part, completely dissolved. See abstract. Preferably the solubility of the compound increases with decreasing OH- ionic concentration and therefore decreasing pH-value in the surrounding medium. Preferably, the compound comprise a polymer, particularly preferred manner a pH sensitive polymer, which comprises at least one repeat unit, which has one basic function, which is not part of the polymer backbone. In a preferred embodiment the polymer comprises at least one repeat unit, which is based on a compound selected from the group comprising vinyl alcohol derivatives, acrylates or alkyl acrylates having said basic function. According to a special embodiment of the invention the polymer is a carbohydrate functionalized with said base function. The basic function is preferably an amine, in particularly preferred manner a secondary or tertiary amine. According to an alternative, the repeat unit is based on a compound – Formula III, and preferably the repeat unit is based on compound – Formula IV. See pages 8-10. Therefore, these claims are anticipated. . . .

. . . . Applicant's arguments filed 4/8/04 have been fully considered but they are not persuasive. Applicant argues that Waschenbach still does not teach or suggest

protonation of the amine functional group. Formulas III and IV provided on pp. 9 and 10 of Waschenbach do not illustrate protonation of the compound.

In response to applicant's arguments, Waschenbach does suggest the teachings of protonation of the amine functional group. Waschenbach teaches a polymer comprising at least one repeat unit, which is based on a compound selected from the group comprising vinyl alcohol derivatives, acrylates or alkyl acrylates having an amine basic function (see abstract).

It is the position of the examiner that there is no criticality in the process steps since a product is being claimed. The burden is shifted to the applicant to show some distinction between the product by other means and there is no difference between the claimed product and the prior art product.

For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 1-10 as being anticipated by Wäschchenbach.

As previously indicated in Applicants' 8 April 2004 Reply, Wäschchenbach discloses a composition provided in the form of a tablet 1 for use in a dishwasher. The composition includes a base composition 2, 3, 2', 2'' (half tablets; *see* p. 14, last paragraph) that carries out its function during the main cleaning cycle of the dishwasher. The composition also includes at least one particle 6, 6', 6'' having at least one core 8, 8''. The core 8, 8'' includes at least one substance that carries out its function during the rinse cycle of the dishwasher. The particle 6, 6', 6'' also has a coating 9, 9'' that, at least mostly, surrounds the core(s) 8, 8''.

The coating 9, 9'' includes at least one compound whose solubility increases with a declining concentration of a specific ion in the surrounding medium. This at least one compound is insoluble or only slightly soluble at the concentration of the specific ions at the end of the main cleaning cycle of the dishwasher, preferably at a pH above 10. This compound further shows sufficient solubility at the concentration of the specific ion during the clear rinse cycle so that it dissolves or is detached from the core(s) 8, 8'' allowing an at least partial release of the core material into the medium of the clear rinse cycle, preferably at a pH below 9 (p. 8, 5th, 6th and 7th ¶).

The compound can contain a pH-sensitive polymer having at least one repeating unit. This repeating unit has at least one basic functional group that is not part of the backbone chain of the polymer (p. 9, 2nd ¶). The repeating unit is preferably based on a compound selected from the group comprising vinyl alcohol derivatives, acrylates or alkyl acrylates (p. 9, 3rd ¶). The

polymer can be a carbohydrate. The basic functional group can preferably be an amine, particularly a secondary or tertiary amine (p. 9, 4th and 5th ¶¶).

Regarding the Examiner's remarks that "there is no criticality in the process steps since a product is being claimed", the Examiner misses the point. The presently claimed invention is directed towards a product that requires "2 to 60 mole percent of protonated amine monomer units, wherein said protonation is formed by a fixed acid" as at least one of the constituents. Therefore, in order for Wäschchenbach to anticipate the presently claimed invention, it must teach or suggest a polymer having protonated amine monomer units. Applicants assert that it does not. As admitted by the Examiner, Formulas III and IV provided on pp. 9 and 10 of Wäschchenbach do not illustrate protonation of the compound. Such protonation does indeed provide a critical difference between the products of Wäschchenbach and the products of the presently claimed invention.

The present application provides a balance between the hydrophobic moiety and the hydrophilic moiety in the form of the protonated amine functionality, resulting in the desired control release properties. If the amine functionality is not protonated during or immediately after polymerization, the polymer precipitates out and cannot be used. If amine or basic portion of the polymers of the present invention are not neutralized, then they will not be water soluble due to the percentage of hydrophobic moieties claimed (> 40 mole %).

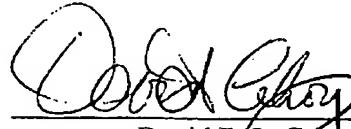
This is not the case in the Wäschchenbach patent. There, the polymers are predominantly or completely amine based polymers. Such polymers are very water soluble and do not require protonation to maintain water solubility. As previously noted and as admitted by the Examiner, nowhere does Wäschchenbach mention protonation of its amine functionality, as such protonation is not critical to the invention to the Wäschchenbach invention. In contrast, protonation of the amine functionality in the present invention enables it to be water soluble. Without protonation, the solid polymer films of the present invention cannot be made.

Accordingly, as Wäschchenbach does not teach or suggest protonated amine monomer units, Wäschchenbach can not be said to anticipate the presently claimed invention. Instead, Wäschchenbach teaches a different polymer having different properties (e.g., water solubility) from the polymers of the presently claimed invention.

For at least these reasons, claims 1-10 are not anticipated by Wäschenbach. Withdrawal, therefore, of the rejection of claims 1-10 under 35 U.S.C. § 102(b) is respectfully requested. Allowance of the claims is believed to be in order, and such allowance is respectfully requested.

In the event that the Examiner is still not persuaded by the above remarks, Applicants respectfully request that the Examiner contact Applicants' representative to schedule an interview.

Respectfully submitted,



David P. LeCroy
Attorney for Applicants
Reg. No. 37,869

Dated: 13 January 2005
NATIONAL STARCH AND CHEMICAL
COMPANY
Post Office Box 6500
Bridgewater, New Jersey 08807-0500
Phone 908.683.5433
Fax 908.707.3706